What is claimed:

1. A peptide compound selected from the group consisting of SEQ ID NO:1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, and 107.

2. The peptide compound of claim 1, which is SEQ ID NO: 1.

3. The peptide compound of claim 1, which is SEQ ID NO: 2.

4. The peptide compound of claim 1, which is SEQ ID NO: 3.

5. The peptide compound of claim 1, which is SEQ ID NO: 60.

6. The peptide compound of claim 1, which is SEQ ID NO: 85.

7. The peptide compound of claim 1, which is SEQ ID NO: 86.

8. A peptide compound which selectively binds to the extracellular portion of human PSMA and is at least 60% identical to a peptide compound selected from the group consisting of SEQ ID NO:1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, and 107.

9. A peptide compound comprising amino acid residues 2-8 of a peptide compound selected from the group consisting of SEQ ID NO:1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, and 107.

10. A polypeptide comprising the peptide compound of any one of claims 1-9 and a heterologous peptide.

11. The peptide compound of any one of claims 1-10, further comprising a therapeutic moiety.

12. The peptide compound of claim 11, wherein the therapeutic moiety is a radioactive material.

13. The peptide compound of claim 11, wherein the therapeutic moiety is a cytotoxin.

14. A pharmaceutical composition comprising a peptide compound of any one of claims 1-13 and a pharmaceutically acceptable carrier.

15. A method for treating prostate cancer in a subject in of such treatment, comprising administering to the subject the pharmaceutical composition of claim 14.

16. The method of claim 15, further comprising performing a procedure that removes or destroys prostatic tumor tissue.

17. The method of claim 16, wherein the pharmaceutical composition comprising the peptide compound is administered to the subject prior to performing the procedure that removes or destroys prostatic tumor tissue.

18. The method of claim 17, wherein the pharmaceutical composition comprising the peptide compound is administered for about 3-6 months prior to performing the procedure that removes or destroys prostatic tumor tissue.

19. The method of claim 17, wherein the pharmaceutical composition comprising the peptide compound is administered for about 6-12 months prior to performing the procedure that removes or destroys prostatic tumor tissue.

20. The method of any one of claims 16-19, wherein administration of the pharmaceutical composition comprising the peptide compound to the subject is continued after performing the procedure that removes or destroys prostatic tumor tissue.

21. The method of any one of claims 16-20, wherein the procedure that removes or destroys prostatic tumor tissue is selected from the group consisting of radical prostatectomy, cryosurgery, external X-ray therapy, and interstitial X-ray therapy.

22. The method of any one of claims 15-21, further comprising administering to the subject an antiandrogen.

23. The method of claim 22, wherein the antiandrogen is a steroidal antiandrogen.

24. The method of claim 22, wherein the antiandrogen is a nonsteroidal antiandrogen.

25. The method of claim 24, wherein the antiandrogen is selected from the group consisting of fluamide, bicalutamide, and nilutamide.

26. The method of any one of claims 15-25, further comprising administering to the subject at least one inhibitor of sex steroid biosynthesis.

27. A method for identifying PSMA binding peptides comprising:

a) varying at least one amino acid residue of a peptide compound selected from the group consisting of SEQ ID NO:1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, and 107; and

b) determining the ability of the peptide to bind to PSMA.